

of which the following is a full, clear and exact description:

COMMUNICATION TERMINAL DEVICE, FACSIMILE DEVICE, AND A
METHOD OF CONTROLLING COMMUNICATION TERMINAL DEVICE
AND FACSIMILE DEVICE

BACKGROUND

Field of the Disclosure

The present disclosure relates to a communication terminal device and a facsimile device and, more specifically, a method of controlling the communication terminal device and the facsimile device.

Discussion of the Background

In a communication terminal device for use in a facsimile device, etc., when transmitting the message, a desired communication partner can be selected and data can be transmitted to the selected communication partner. However, when receiving a message, it is basically impossible to select the communication partner that the data is received from.

As a result, the facsimile receiver only knows if the message is received from a non-desirable communication partner after having received the message. Therefore, unnecessarily received or unwanted data may inevitably be received together with the necessary or desired data.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete appreciation of the disclosure and many of the attendant advantages thereof will be readily obtained as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

Fig. 1 is a block diagram illustrating the structure of a facsimile device relating to an embodiment;

Fig. 2 is an explanatory diagram explaining the contents of the memorization in the RAM of the facsimile device relating to the embodiment;

Fig. 3 is an arrangement view showing the operation board of the facsimile device relating to the embodiment, wherein the other parts excluding the part directly concerning the embodiment are omitted;

Fig. 4 is a sequence diagram illustrating the facsimile transmission sequence;

Fig. 5 is a diagram (table) showing the concrete contents of the receipt-allowed communication partner registering table;

Fig. 6 is a diagram (table) showing the concrete contents of the communication control table;

Fig. 7 is a flow chart illustrating the procedure of the facsimile

transmitting/receiving processes in the facsimile device relating to the embodiment;

Figs. 8 is a flow chart illustrating the procedure of the facsimile transmitting/receiving processes in the facsimile device relating to the embodiment, together with Fig. 7;

Fig. 10 is a diagram illustrating the communication control report example recorded and outputted in accordance with the processing procedure as shown in Fig. 9.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, wherein like reference numerals designate

a normal communication control medium collecting communication control information in connection with the communication relating to the receipt of the message from the communication partner registered in a transmission-allowed communication partner registration table or the receipt-allowed communication partner registration table, and memorizing the collected communication control information in the normal communication control information memorizing medium; a receipt-rejected communication control medium collecting the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner not registered in the receipt-allowed communication partner registration table and memorizing the corrected communication control information in a receipt-rejected communication control information memorizing medium; a communication control list creating medium creating the communication control list such that the list image information based on the communication control information respectively memorized in the normal communication control information memorizing medium and the receipt-rejected communication control information memorizing medium, and the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed

the receipt-allowed communication partner not registered in the receipt-allowed communication partner registration table; memorizing the corrected communication control information in a receipt-rejected communication control information memorizing medium; creating the communication control list such that the list image information based on the communication control information respectively memorized in the normal communication control information memorizing medium and the receipt-rejected communication control information memorizing medium, and the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table can be discriminated from the communication control information in connection with the communication relating to the receipt of the messages from the communication partner registered in a transmission-allowed communication registering table; and visibly outputting the list image information created by the communication control list creating medium.

The fifth aspect of the present disclosure relates to the communication terminal device in connection with the first or third aspect, in which the communication control information collected by the receipt-rejected communication control medium and memorized in the receipt-rejected

communication control information memorizing medium in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table includes the communication partner discriminating information notified at the time of the message arrival.

The sixth aspect of the present disclosure relates to the method of controlling the communication terminal device in connection with the second or fourth aspect, in which the communication control information memorized in the receipt-rejected communication control information memorizing medium in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table includes the communication partner discriminating information notified at the time of the message arrival.

The seventh aspect of the present disclosure relates to the communication terminal device in connection with the first, third, or fifth aspect, in which the communication terminal device further comprises a time counting medium for counting the present date and time; and in which the communication control information collected by the receipt-rejected communication control medium and memorized in the receipt-rejected communication control information memorizing

medium in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table includes the date-and-time information read out from the time counting medium at the time of the message arrival.

The eighth aspect of the present disclosure relates to the communication terminal device in connection with the second, fourth, or sixth aspect, in which the communication control information memorized in the receipt-rejected communication control information memorizing medium in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table includes the date-and-time information at the time of the message arrival.

The ninth aspect of the present disclosure relates to a facsimile device provided with a receipt-rejected function of rejecting the message receipt from the communication partner excluding the communication partner previously registered in a receipt-allowed communication partner registered in a receipt-allowed communication partner registering table including: a receipt-rejected communication control medium collecting the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed

communication partner registering table, and memorizing the collected communication control information in the receipt-rejected communication control information memorizing medium; a communication control list creating medium creating the list image information on the basis of the communication control information memorized in the receipt-rejected communication control information memorizing medium; and a list outputting medium visibly outputting the list image information created by the communication control list creating medium.

The tenth aspect of the present disclosure relates to a method of controlling the facsimile device provided with a receipt-rejected function of rejecting the message receipt from the communication partner excluding the communication partner previously registered in a receipt-allowed communication partner registered in a receipt-allowed communication partner registering table including the steps of: collecting the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table; creating the list image information on the basis of the communication control information; memorizing the collected communication control information in the receipt-rejected communication control information memorizing medium; creating the list image information on the basis of the communication control

connection with the communication relating to the message receipt from the communication partner registered in the transmission-allowed communication partner registering table or in the receipt-allowed communication partner registering table; memorizing said collected communication control information in the normal communication control information memorizing medium; collecting the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table; memorizing the collected communication control information in the receipt-rejected communication control information memorizing medium; creating the list image information on the basis of the communication control information respectively memorized in the normal communication control information memorizing medium and the receipt-rejected communication control information memorizing medium and creating the communication control information in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table, such that both of the communication control information can be discriminated from the communication control information in connection with the communication relating to the message receipt from the communication partner

control information in the receipt-rejected communication control information memorizing medium in connection with the communication relating to the message arrival from the communication partner not registered in the receipt-allowed communication partner registering table so as to include the date-and-time information read out from the time counting medium at the time of the message arrival.

An embodiment of the present disclosure is described hereinafter in detail, referring to the accompanying drawings.

Fig. 1 shows the block structure of the facsimile device 1 as the communication terminal device relating to an embodiment of a present disclosure.

In Fig. 1, the facsimile device 1 is constructed with a system control section 2, a ROM 3, a RAM 4, a scanner 5, a plotter 6, a clock circuit 7, an image memory 8, an operation display section 9, a coding/decoding section 10, a MODEM 11, a network control section 12, and a system bus 13.

The system control section 2 employs the RAM 4 as a working area and controls the respective sections in the facsimile device 1 in accordance with the control program written in the ROM 3.

ROM 3 is a read only memory in which the control program(s) for the system control section 2 used to control the respective sections of the facsimile

designate the facsimile number, etc. of the communication partner. The start key 9b is used to indicate the start of the facsimile transmission operation and the start of the copying operation. The stop key 9c is used to forcibly stop the various operations. The "Yes" key 9d and the "No" key 9e allow the user to perform various selections for making a decision or to cancel an operation.

The function key 9f is used for calling out (carrying out) the registering function of the one-touch dial, the registering function of the shortening dial, the function of setting the user parameter, and other functions excluding the standard facsimile function of the facsimile device 1 such as the time designating transmission, the department code designating transmission, etc. After selecting the function key 9f, the numbers corresponding to the respective functions are inputted. Thereby, the respective functions can be called out and performed.

The display unit 9g displays the operation state of the device to the user and the various other messages.

In Fig. 1, the coding/decoding section 10 performs the operation of coding/compressing the transmitted image data using a predetermined coding method suitably matched to the G3 facsimile such as an MH coding method, an MR coding method, and an MMR coding method, etc. In addition, the same section 10 performs the operation of decoding/expanding received image data

phase F3.

The calling side then sends out a digital sending order signal DCS, a non-standard function setting signal NSS, and a transmission terminal discriminating signal TSI, for the digital discrimination signal DIS, the non-standard function discriminating signal NSF, and the called terminal discriminating signal CSI (phase F4).

Furthermore, the calling side sets communication parameters with the phase F4, and thereafter, performs MODEM training with the set MODEM speed (phase F5). The calling side then waits for receipt of the receipt preparing confirmation signal CFR from the called (message receipt) side (phase F6), and then transmits the image information as the facsimile message (phase F7). The data transmitted as the facsimile message during the phase F7 is not limited to image information. That is, the facsimile message may be transmitted as is binary data of a BFT (Binary File Transfer) which is an expanded function of the G3 facsimile.

After the facsimile message has been transmitted during the phase F7, the calling side sends out the procedure ending signal EOP (phase F8). When the called side (message receipt side) responds with signal MCF (phase F9), the calling side sends out the cut-off or disconnect ordering signal DCN (phase F10). At this time, the facsimile transmission is completed.

The G3 facsimile communication is performed in such a way that the called terminal discrimination signal CSI is sent during Phase F3. The calling side can thus obtain the discrimination information of the communication partner during phase F3. On the other hand, the called side can obtain the discrimination information of the communication partner at the calling side from the transmission terminal discrimination signal TSI sent during Phase F4. The information being exchanged, for example, the called terminal discrimination signal CSI and the transmission terminal discrimination signal TSI are the self-station discriminating information 4a previously registered and stored in the RAM 4 as mentioned above.

The contents of the receipt-allowed communication partner registering table 4c registered and stored in the RAM 4 is shown in Fig. 5. The discriminating information of the receipt-allowed communication partners is registered in the receipt-allowed communication partner registering table 4c as shown in Fig. 5. The discriminating information of the respective communication partners which is registered, is the same as the discriminating information notified from the respective communication partners with the transmission terminal discriminating signal TSI at the time of receiving the signal.

Fig. 6 shows the contents of the communication control table 4b registered

normal completion of the communication (OK), the non-completion (abnormal state) of the communication (E), or the occasional receipt rejection (rejection of receiving the signal) (UC). Furthermore, the character row "G3" shows the exchanging of the signal with the G3 facsimile protocol. The character "E" shows the exchanging of the signal by jointly utilizing the ECM (Error Correcting Mode) which is an additional function of the G3 facsimile protocol. The characters "S", "D", and "F" respectively show the line densities of the transmitted or received image information; 3.85 lines/mm (ordinary character), 7.7 lines/mm (small character), and 15.4 lines/mm (fine character). The character "M" shows the performance of a memory transmission or a memory reception. The "UC" at the "communication result" is the abbreviation indicating an "Unauthorized Call".

Next, the procedure of processing the facsimile transmission/receipt performed in the facsimile device 1, will be described by referring to Fig. 7 and Fig. 8.

In Fig. 7, the signal arrival is detected by the network control section 12, and the system control section 2 of the facsimile device 1 monitors whether the original document is set on the scanner 5 (loop of the judgment 101-No and the judgment 102-No).

When the signal arrives (judgment 101-Yes), the present date and time are

the field "communication partner". As to the field "signal exchanging mode", when the judgment 107 becomes Yes and the facsimile signal receiving process is performed, the property of the practical facsimile message receipt is registered, in addition to "G3". However, when the judgment 107 becomes No and the facsimile signal receiving process is not performed, only the "G3" is registered. Furthermore, as to the field "communication time", the accumulated counted time of the communication time, started in the process 104 until the circuit is cut off, is registered. Furthermore, as to the field "communication sheets number", when the judgment 107 becomes Yes and the facsimile signal receiving process is performed, the number of pages of the received image information is registered. However, when the judgment 107 becomes No and the facsimile signal receiving process is not performed, the sheets number "0" is registered. Furthermore, as to the field "communication result", when the judgment 107 becomes Yes and the facsimile signal receiving process is performed, "OK" or "E" is respectively registered in accordance with whether the facsimile signal receiving process is normally completed or not. However, when the judgment 107 becomes No and the facsimile signal receiving process is not performed, the "UC" showing the receipt rejection is registered.

Now, in the judgment 102, when the original document is set (judgment

102-Yes), whether there exists a designation input to the address via the operation board 9 is monitored (judgment 115-No loop) (see Fig. 8). When the designation inputting is performed to the address (judgment 115-Yes), whether the start key 9b indicating the transmission start is pushed down is further monitored (judgment 116-No loop). When the start key 9b is pushed down and the transmission start is indicated (judgment 116-Yes), the present date and time are read out from the clock circuit 7 as the communication start date and time (process 117) and the counting of the communication time is started (process 118). The calling is done to the address designated at the judgment 115 and the pre-transmission procedure is practiced on the basis of the G3 facsimile protocol (process 119). In the pre-transmission procedure of the process 119, the self station discriminating information 4a is transmitted as the transmission terminal discriminating signal TSI.

The transmission control procedure is continued on the basis of the G3 facsimile protocol thereafter, and the facsimile signal transmitting process of sending, as the facsimile message, the image information obtained by reading out the original document set in the judgment 102 is performed (process 120). When the facsimile signal transmitting process is normally completed (judgment 109-Yes), the result of the communication relating to the relevant facsimile

transmission is made "OK" (process 112). On the other hand, when the communication error occurs during the facsimile signal transmitting process and the transmitting process is not normally completed (judgment 121-No), the result of the communication relating to the relevant facsimile transmission is made "E" (process 123).

After performing the process 122 or the process 123, the communication control information regarding the communication transmitted this time is created and the information thus created is registered in the communication control table 4b (process 124). Regarding the communication created and registered in the process 124, a file number that is not duplicative with one already attached to a record of the other communication control information is registered as the field "file number" as shown in Fig. 6.

Furthermore, the "signal receipt" is registered as the field "transmission/receipt". The communication starting date read out in the process 117 is registered in the field "communication date". The communication starting time read out in the process 118 is registered as the field "communication starting time". The discriminating information at the signal receiving side received in the pre-transmission procedure of the process 119 is registered as the field "communication partner". The property of the practical facsimile message

receiving is registered in addition to the "G3" as the field "signal exchanging mode". Furthermore, as to the field "communication time", the accumulated counted time between cutting off the circuit of the communication, and starting the time of the communication as started in the process 118, is registered. The number of pages of the transmitted image information is registered as the field "communication sheets number". The "OK" or "E" is registered in accordance with the facsimile signal transmitting process is normally completed as the field "communication result".

In such way as mentioned heretofore, the communication control information relating to the signal arrival from the receipt-rejected communication partner which is not registered in the receipt-allowed communication partner registering table 4c is registered in the communication control table 4b together with the normal communication control information relating to the signal transmission and the signal receipt from the communication partner registered in the receipt-allowed communication partner registering table 4c.

In fact, it may be allowable that the receipt-rejected communication control information relating to the signal arrival from a receipt-rejected communication partner is registered in another table different than that of the ordinary communication control information relating to the signal transmission and the

indicating, for example, whether the communication control report outputting mode is initiated (judgment 201-No loop). When the communication control report outputting mode is initiated (judgment 201-Yes), the report image information is created on the basis of the registered contents of the communication control table 4b (process 202). The report image information thus created is recorded and outputted on the recording paper by use of the plotter 6 and thereby the report image information can be visibly outputted (process 203). On that occasion, it may be allowable that the visible output state of the report image information is the display on the operation displaying section 9.

Fig. 10 shows the example of the communication control report recorded and outputted on the recording paper in the process 203 of Fig. 9.

The content of the report as shown in Fig. 10 is shown in the style of a list classifying the registered contents of the communication control table 4b into the "transmission" and the "receipt". The communication control information regarding the communication relating to the receipt rejection of the communication result "UC" is noted in the communication result section.

As described heretofore, the communication control information regarding the communication relating to the receipt rejection is provided in the form of the list such that the above communication control information can be distinguished

from other normal communication control information relating to transmission and receipt. This in contrast to the case in which a report regarding a communication relating to the receipt rejection is outputted as a one-page report for each receipt rejection. Accordingly, in the present system, the wasteful paper usage can be avoided. Furthermore, the communication control information of the communication relating to the receipt rejection can be collectively controlled together with the communication control information relating to normal transmissions or receptions.

It is also possible to treat the communication control information regarding the communication relating to the receipt rejection different than the communication control information relating to the normal transmission or reception, for instance, by recording and outputting the information as a receipt-rejected communication control report. In this case, the receipt-rejected communication control report can be outputted as one sheet of report. Therefore, the communication control information relating to the receipt-rejected communication can all be controlled separate from the communication control information relating to ordinary communications.

Furthermore, regarding the contents of the communication control information in connection with the communication relating to the receipt rejection,

Consequently, the time when the signal arrives can be easily specified for the communication relating to the receipt rejection of the respective cases. This is still another advantageous functional effect of the present disclosure.

The preferred embodiment of the present disclosure (aspects of the invention) and the advantageous functional effects thereof over the background art(s) have been described heretofore. However, numerous additional modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claims, the present invention may be practiced otherwise than as specifically described herein.

This application claims benefit of priority under 35 U.S. C.120 to Japanese Patent Application No. JPAP 11-249630 filed in the Japanese Patent Office on September 3, 1999, the entire contents of which are incorporated by reference.